

2016-17 RABBIT HUNTING COOPERATOR SURVEY REPORT



KENTUCKY DEPARTMENT OF FISH AND WILDLIFE RESOURCES



**Prepared By:
Cody M. Rhoden
Wildlife Biologist**

METHODS

The 2016-17 Rabbit Hunting Cooperator Survey Report is a summary of two annual surveys conducted by the Kentucky Department of Fish and Wildlife Resources (KDFWR) to estimate rabbit production, hunter effort, and hunter success. First, the Rabbit Hunter Log Survey is a diary-type hunting log used to record information from hunts throughout the season. Hunters were asked to keep the log to date as the hunting season progressed, and at the season's conclusion, logs were mailed to the KDFWR for analysis.

The Mail Carrier Survey represents the second survey used to monitor rabbit populations across the state. Mail carriers recorded rabbit and quail observations as they traveled their rural delivery routes during the last full week of July (6 delivery days). Survey cards provided space for observations of rabbits for each of the survey days. Observers also recorded the number of days surveyed, the length of the route, and the total miles driven. The mail carrier data are used to forecast the upcoming hunting season, monitor the population, and estimate rabbit productivity.

All surveys are strictly voluntary and we strongly encourage all Kentucky rabbit hunters and rural mail carriers to participate in these surveys. Hunter cooperators receive this report, detailing hunting season results, and expectations for the upcoming season. Cooperators also receive a new hunting log for the upcoming season and a small gift of appreciation for their participation. Participating mail carriers receive a subscription to *Kentucky Afield* magazine for their support.

RESULTS AND DISCUSSION

I. Rabbit Hunter Log Survey

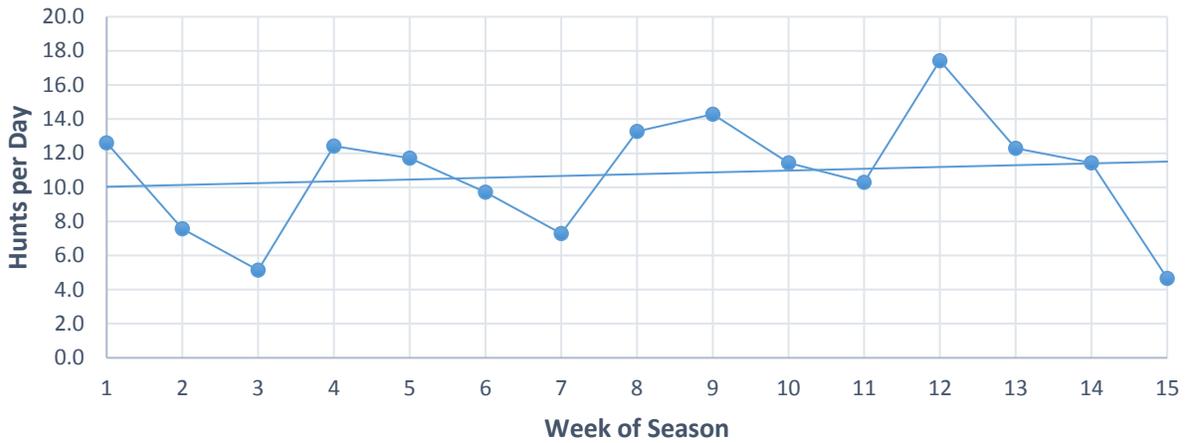
Hunting logs were received from 72 hunters who averaged 15 hunting trips each for the season. Data were grouped into weekly and monthly subsets.

"Tidbits" from hunting logs:

- Hunter cooperators logged 1,100 hunts in 2016-17.
- Average size of hunting party = 2 hunters
- Average length of hunt = 3.4 hours
- Average number of dogs used per hunt = 4
- Total number of counties that cooperators hunted in = 74
- Number of rabbits jumped per **hunt** = 5.3/hunt
- Number of rabbits jumped per **hour** = 1.6/hour
- Number of rabbits killed per hunt = 2.1/hunt

Hunting pressure remained relatively stable as the season progressed (Figure 1).

Figure 1: Number of Hunts per Available Hunt Day: Fall 2016-2017



Hunting effort peaked in January, whereas harvest peaked in December (Figure 2).

Figure 2: Hunting Effort and Harvest: Fall 2016-2017

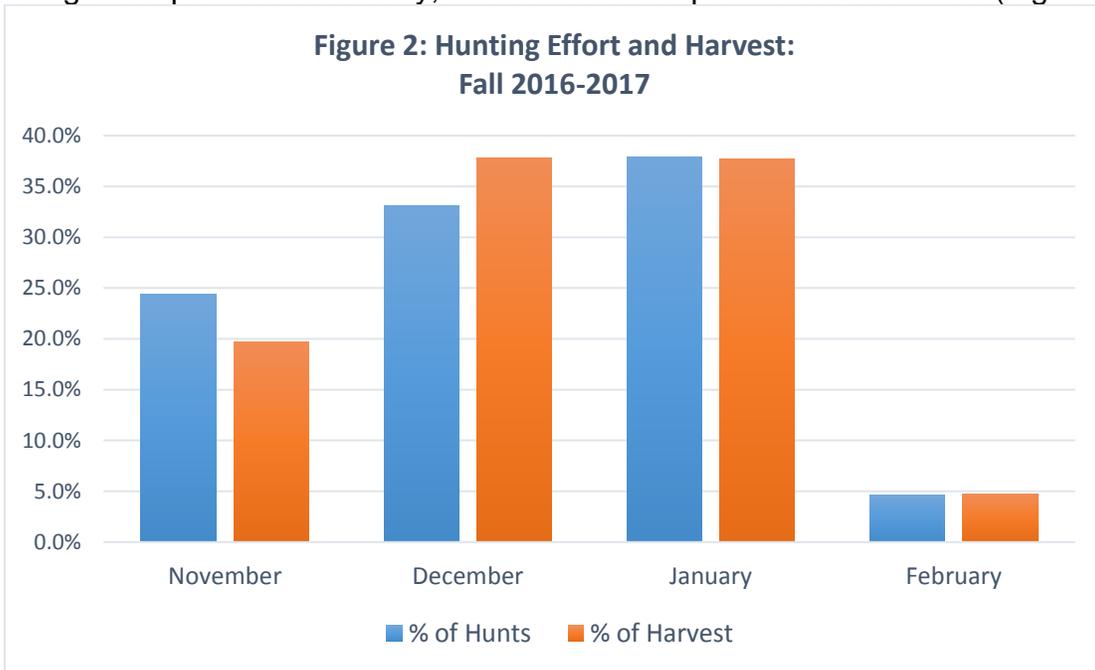


Table 2. Summary Statistics from the Rabbit Hunter Log Survey in Kentucky, 2012-2016 Seasons.

Statistics	2012-13	2013-14	2014-15	2015-16	2016-17
Cooperators	119	100	98	87	72
Hunts	1,880	1,406	1,413	1,198	1,100
Counties	108	97	93	89	74
Hunts/Hunter	16	14	14	14	15

Hours Hunted	6,861.9	4,939.6	4,983.0	4,309.0	3,687.0
Dogs Used	7,958	5,552	5,518	4,899	4,144
Total Rabbits Jumped	12,782	9,726	9,173	7,579	5,851
Total Rabbits Harvested	5,436	3,851	3,797	3,193	2,317
Total Rabbits Wounded	387	268	297	236	91
Hunting Mortality (%)	45	42	45	45	42

Over the past five hunting seasons, hunting mortality (harvested and wounded individuals) remained less than 50% of the rabbits jumped (Table 2).

Table 2.1. Breakdown of species harvested in recent hunting seasons. Note: Seven reported Appalachian jumped in 2012-2013 with two killed. Three Appalachian reported jumped in 2013-2014 with three killed and one reported jumped in 2014-2015.

Statistics	E. Cottontail			Swamp		
	Jumped	Killed	Wounded	Jumped	Killed	Wounded
2012-13	12611	5368	385	164	66	2
2013-14	9626	3823	260	97	25	3
2014-15	9012	3744	295	160	53	2
2015-16	7545	3183	236	34	10	0
2016-17	5806	2299	90	45	18	1

Table 3. Rabbit jump and harvest rates in Kentucky, 2012-2016 rabbit seasons.

Year	12-13	13-14	14-15	15-16	16-17
Total Hunts	1,880	1,406	1,413	1,198	1,100
Jumped/Hunt	6.80	6.92	6.49	6.33	5.32
Jumped/Hour	1.86	1.97	1.84	1.80	1.59
Harvested/Hunt	2.89	2.74	2.69	2.70	2.13
Harvested/Hour	0.79	0.78	0.76	0.74	0.64
Wounded/Hunt	0.20	0.19	0.21	0.20	0.08

II. Mail Carrier Survey Results

The Mail Carrier Survey provides a glimpse of what we can expect for the upcoming hunting season. The survey is the oldest in the program being completed for 57 years. Although no population estimates can be derived from these data, it does provide valuable trend information showing whether the population is up, down, or stable.

2017 Survey Statistics

- Mail Carriers returned 661 survey cards
- Total miles driven = 232,425
- Total rabbits seen = 3,401
- Statewide observation rate = 1.46 rabbits/100 miles traveled

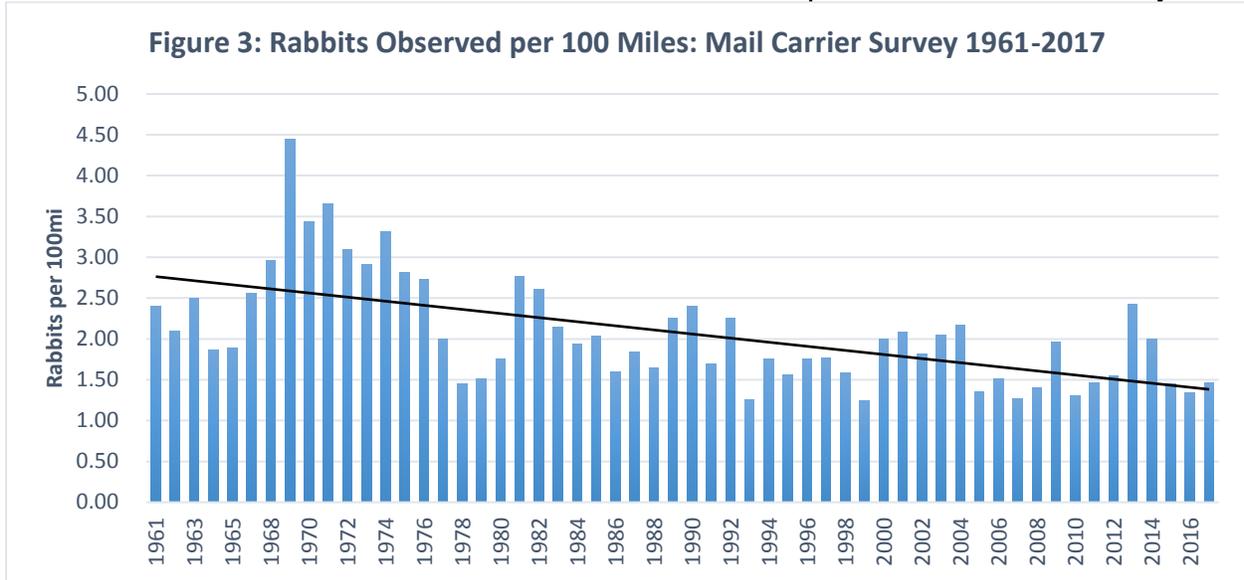
Beginning in 2011, mail carrier data was no longer analyzed across eight different physiographic regions. Analyzing data across eight regions resulted in small sample sizes which can be far less accurate. Data are now grouped into 4 regions: West, Central, Bluegrass and East (Appendix A).

Table 4. Mail Carrier indices and rates of change in Kentucky, 1961-2017.

	TOTAL RABBITS/100 MILES			PERCENT CHANGE	
	MEAN (average)			MEAN (average)	
	1961-2017*	2016	2017	1961-2017	2016 to 2017
West	-	0.84	0.92	-	+10%
Central	-	1.48	1.48	-	±0%
Bluegrass	-	1.39	1.41	-	+1.4%
East	-	1.75	2.13	-	+21.7%
Statewide	2.07	1.34	1.46	-39.2%	+9.0%
(-) = data was not analyzed by west, central, bluegrass, east until 2011					

Over the last 56 years of this survey, the decline in the rabbit population is evident (Figure 3). The severe drop in population levels following the winters of 1977 and 1978 was dramatic and populations have been slow to recover. The overall drop in rabbit numbers since the late 1960's can be generally attributed to habitat loss because of land use changes and cleaner agricultural practices. However, recent years have seen a nice increase in the number of rabbits observed. The increases across all but one of the Weather Regions from 2016 to 2017 is a welcome sight. The winter was mild which potentially favored high overwinter survivorship and excellent breeding condition

for does. This coupled with the fact that the spring was not overly wet has contributed to the 9% increase statewide in the number of rabbits seen per 100 miles in Kentucky.



SUMMARY

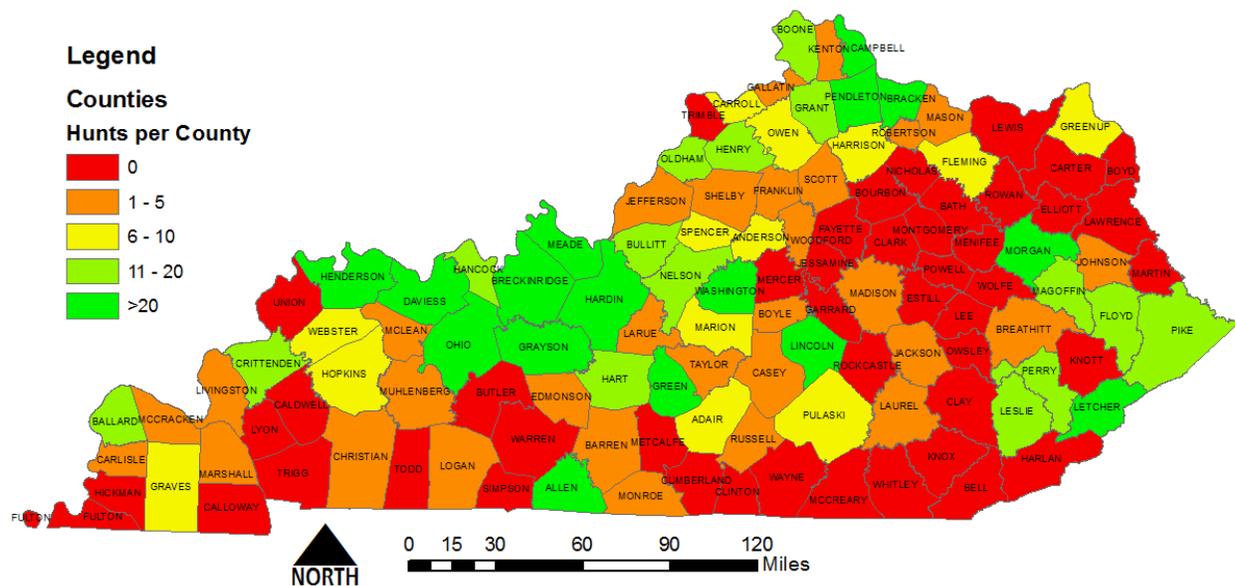
The Mail Carrier Survey and the Rabbit Hunter Log Survey appear to be tracking each other well. Therefore, we can make predictions based on the Mail Carrier Survey results. This year, the East Region of the state once again led all regions in the number of rabbits observed, followed by the Central Region.

Overall, the 2016-17 rabbit season was good. Over the last 20 years, the population has remained fairly stable with bumps up and down. Last year, harvest rates and jump rates are slightly down when compared to the previous season. The Mail Carrier Survey shows a 9% increase in the number of observed rabbits statewide between 2016 and 2017. This increase could lead to higher jump and harvest rates for rabbits in Kentucky for the 2017-2018 season. Hunters in the Commonwealth should expect a slightly better year for rabbit hunting in the upcoming season and potentially the next few seasons as our population cycle begins its uptick.

ACKNOWLEDGMENTS

We would like to say a special thanks to all those who have participated in the various small game surveys over the years. Your cooperation provides us with valuable data necessary to make wise management decisions regarding rabbit populations and hunting seasons. With that in mind, we ask that you recruit your friends and neighbors who also rabbit hunt to join you in being a hunting cooperator. **We need many more cooperators to accurately track rabbit populations across the state.**

Take a look at the below map and plan a hunt in a county with few reported rabbit hunts:



Hunting logs can be found on the internet fw.ky.gov/Hunt/Pages/Game-Species.aspx or by contacting the Kentucky Department of Fish and Wildlife Resources at #1 Sportsman's Lane, Frankfort, KY 40601 (1-800-858-1549). Thank you to all who participated this year, and we hope to hear from you and all of your hunting partners in next season's surveys.

Cover image provided by Wes Siegrist (www.artofwildlife.com/miniaturepaintings23.html)

Appendix A

